

	Type	L #	Hits	Search Text	DBs	Time Stamp
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2	BRS	L9	1915	centroid\$1 same (co-ordinat\$4 or coordinat\$4)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:43
3	BRS	L10	1	L9 same (dumm\$3 same (cluster\$4 or group\$4))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:23
4	BRS	L11	4	L9 and (dumm\$3 same (cluster\$4 or group\$4))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:43
5	BRS	L12	16	5598505.uref,bi.	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:23
6	BRS	L13	0	L12 same (dumm\$3 same (cluster\$4 or group\$4))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:24
7	BRS	L14	0	L12 and (dumm\$3 same (cluster\$4 or group\$4))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:24
8	BRS	L15	34	(dumm\$3 same (cluster\$4 or group\$4)) same (coordinat\$4 or co-ordinat\$4)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:32
9	BRS	L16	2820	dumm\$3 same (cluster\$4 or group\$4)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:33

10/014, 744

	Type	L #	Hits	Search Text	DBs	Time Stamp
10	BRS	L17	43	L16 and 707/.ccls.	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:34
11	BRS	L18	9	L17 and (@rlad<=20001027 or @ad<=20001027) and distance\$1	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:44
12	BRS	L19	35	L17 and (@rlad<=20001027. or @ad<=20001027)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:36
13	BRS	L20	92012	((dumm\$3 or cop\$4) same (cluster\$4 or group\$4)).	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:43
14	BRS	L21	1	L20 same (centroid\$1 same (co-ordinat\$4 or coordinat\$4))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:44
15	BRS	L22	48	L20 and (centroid\$1 same (co-ordinat\$4 or coordinat\$4))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:44
16	BRS	L23	43	L22 and (@rlad<=20001027 or @ad<=20001027)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2004/02/05 11:44

	Document ID	Issue Date	Title	Current OR	Current XRef	Inventor
1	US 20030061198 A1	20030327	Method of searching novel ligand compounds from three-dimensional structure database	707/1		Itai, Akiko et al.
2	US 20030014413 A1	20030116	SCRAMBLING METHOD OF THE DATA FILES	707/10		FUJISHIMA, YUZO et al.
3	US 20030014392 A1	20030116	Method and system for forming, storing and using sets of data values	707/1		Meek, James A.
4	US 20020161763 A1	20021031	Method for classifying data using clustering and classification algorithm supervised	707/7		Ye, Nong et al.
5	US 20020111938 A1	20020815	Method of searching novel ligand compounds from three-dimensional structure database	707/1		Itai, Akiko et al.
6	US 20020073080 A1	20020613	Method and apparatus for an information server	707/3		Lipkin, Daniel S.
7	US 20020049749 A1	20020425	Method and apparatus for a business applications server management system platform	707/3		Helgeson, Chris et al.
8	US 20010018682 A1	20010830	METHOD OF SEARCHING NOVEL LIGAND COMPOUNDS FROM THREE-DIMENSIONAL STRUCTURE DATABASE	707/1	707/100	ITAI, AKIKO et al.
9	US 6542640 B1	20030401	Data compressing apparatus, reconstructing apparatus, and its method	382/229	341/106; 341/107; 341/50; 341/51; 348/384.1; 358/426.01; 382/232; 382/233; 382/239; 382/247; 707/101; 708/203; 715/532	Morihara, Takashi et al.
10	US 6493709 B1	20021210	Method and apparatus for digitally shredding similar documents within large document sets in a data processing environment	707/4	704/2; 704/9; 711/202	Aiken, Alexander
11	US 6490586 B1	20021203	Ordered sub-group messaging in a group communications system	707/10		Goft, Gera et al.
12	US 6460046 B1	20021001	Method and system for forming, storing and using sets of data values	707/102	701/200; 701/208; 701/211; 707/100; 707/101	Meek, James A.
13	US 6438538 B1	20020820	Data replication in data warehousing scenarios	707/3	707/4	Goldring, Robert David
14	US 6434566 B1	20020813	Method and system for supporting multi-method dispatching in object-oriented programming	707/102	707/103R; 719/315	Ferragina, Paolo et al.
15	US 6421660 B1	20020716	Enhanced searching method and apparatus for variable bit chains	707/3	707/100; 707/102; 707/6	Glaise, Rene
16	US 6389410 B1	20020514	Method for minimizing the number of sorts required for a query block containing window functions	707/2	707/3; 707/4; 707/5; 707/6; 707/7	Gupta, Abhinav
17	US 6389378 B2	20020514	Method of searching novel ligand compounds from three-dimensional structure database	703/11	702/27; 707/104.1; 707/6	Itai, Akiko et al.
18	US 6240409 B1	20010529	Method and apparatus for detecting and summarizing document similarity within large document sets	707/4	707/101; 707/3; 707/7; 715/531	Aiken, Alexander

	Document ID	Issue Date	Title	Current OR	Current XRef	Inventor
19	US 6167405 A	20001226	Method and apparatus for automatically populating a data warehouse system	707/102		Rosensteel, Jr., Kenneth R. et al.
20	US 6044369 A	20000328	Hash table call router for widely varying function interfaces	707/4	707/104.1	Black, Ron L.
21	US 5926652 A	19990720	Matching of wild card patterns to wild card strings associated with named computer objects	712/300	707/6	Reznak, Frederick J.
22	US 5887274 A	19990323	Restartable fast DB2 tablespace reorganization method	707/202	707/101	Barry, Richard E. et al.
23	US 5884297 A	19990316	System and method for maintaining a table in content addressable memory using hole algorithms	370/395.3	370/397; 707/2	Noven, Geir Age
24	US 5855016 A	19981229	Sorting system for serially processing records	707/7		Edem, Brian Charles et al.
25	US 5787386 A	19980728	Compact encoding of multi-lingual translation dictionaries	704/8	704/10; 704/2; 704/9; 707/101; 707/102; 707/5; 715/532; 715/536	Kaplan, Ronald M. et al.
26	US 5715442 A	19980203	Data unit group handling apparatus	707/1	704/10; 707/100; 707/101; 707/104.1; 715/532	Ishida, Eiji et al.
27	US 5687368 A	19971111	CPU-controlled garbage-collecting memory module	707/103R		Nilsen, Kelvin D.
28	US 5668991 A	19970916	Database management system	707/202	707/200; 707/201; 707/7	Dunn, Stephen et al.
29	US 5517641 A	19960514	Restartable method to reorganize DB2 tablespace records by determining new physical positions for the records prior to moving using a non sorting technic	707/101		Barry, Richard E. et al.
30	US 5515532 A	19960507	File management system for memory card	707/200	714/38	Iijima, Yasuo
31	US 5434991 A	19950718	Method and apparatus for recording and reproducing information in black on a rewritable recording medium	711/112	369/30.04; 369/59.25; 369/59.26; 707/205; 711/170; 714/756; 714/769	Maeda, Shigemi et al.
32	US 5349684 A	19940920	Sort and merge system using tags associated with the current records being sorted to lookahead and determine the next record to be sorted	707/1	340/146.2; 715/533	Edem, Brian C. et al.
33	US 5185886 A	19930209	Multiple record group rebound sorter	707/7		Edem, Brian C. et al.
34	US 5142687 A	19920825	Sort accelerator with rebound sorter repeatedly merging sorted strings	707/7	707/200; 715/533	Lary, Richard F.
35	US 4809158 A	19890228	Sorting method and apparatus	707/7		McCauley, Peter B.


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- 1 [Poster papers - short papers: Auto-generation of topic hierarchies for web images from users' perspectives](#) 100%



Pu-Jen Cheng , Lee-Feng Chien

**Proceedings of the twelfth international conference on Information and knowledge management** November 2003

In this paper, we propose an approach to automatically generating a Yahoo!-like topic hierarchy for organizing Web images from users' perspectives. Relatively little effort has been devoted towards providing such a taxonomy simultaneously considering users' image requests for semantic and visual information. Based on the characteristic that a Web-image query may be refined by various attributes, the proposed approach hierarchically groups similar queries from search engine logs into topic classe ...

- 2 [Latent dirichlet allocation](#) 100%



David M. Blei , Andrew Y. Ng , Michael I. Jordan

**The Journal of Machine Learning Research** March 2003  
Volume 3

We describe *latent Dirichlet allocation* (LDA), a generative probabilistic model for collections of discrete data such as text corpora. LDA is a three-level hierarchical Bayesian model, in which each item of a collection is modeled as a finite mixture over an underlying set of topics. Each topic is, in turn, modeled as an infinite mixture over an underlying set of topic probabilities. In the context of text modeling, the topic probabilities provide an explicit representation of a document. ...

- 3 [Similarity querying II: Using sets of feature vectors for similarity search on voxelized CAD objects](#) 100%



Hans-Peter Kriegel , Stefan Brecheisen , Peer Kröger , Martin Pfeifle , Matthias Schubert

**Proceedings of the 2003 ACM SIGMOD international conference on on Management of data** June 2003

In modern application domains such as multimedia, molecular biology and medical imaging, similarity search in database systems is becoming an increasingly important task. Especially for CAD applications, suitable similarity models can help to reduce the cost of developing and producing new parts by maximizing the reuse of existing parts. Most of the existing similarity models are based on feature vectors. In this paper, we shortly review three models which pursue this paradigm. Based on the most ...

- 4 Spatial indexing of high-dimensional data based on relative approximation 100%  
 [A] Yasushi Sakurai , Masatoshi Yoshikawa , Shunsuke Uemura , Haruhiko Kojima  
**The VLDB Journal &mdash; The International Journal on Very Large Data Bases**  
 October 2002  
 Volume 11 Issue 2  
 We propose a novel index structure, the A-tree (approximation tree), for similarity searches in high-dimensional data. The basic idea of the A-tree is the introduction of virtual bounding rectangles (VBRs) which contain and approximate MBRs or data objects. VBRs can be represented quite compactly and thus affect the tree configuration both quantitatively and qualitatively. First, since tree nodes can contain a large number of VBR entries, fanout becomes large, which increases search speed. More ...
- 5 Best Paper: Early experiences with a 3D model search engine 100%  
 [A] Patrick Min , John A. Halderman , Michael Kazhdan , Thomas A. Funkhouser  
**Proceeding of the eighth international conference on 3D web technology** March 2003  
 New acquisition and modeling tools make it easier to create 3D models, and affordable and powerful graphics hardware makes it easier to use them. As a result, the number of 3D models available on the web is increasing rapidly. However, it is still not as easy to find 3D models as it is to find, for example, text documents and images. What is needed is a "3D model search engine," a specialized search engine that targets 3D models. We created a prototype 3D model search engine to investigate the d ...
- 6 Non-hierarchical document clustering using the ICL distribution array processor 100%  
 [A] E. Rasmussen , P. Willett  
**Proceedings of the 10th annual international ACM SIGIR conference on Research and development in information retrieval** November 1987  
 This paper considers the suitability and efficiency of a highly parallel computer, the ICL Distributed Array Processor (DAP), for document clustering. Algorithms are described for the implementation of the single-pass and reallocation clustering methods on the DAP and on a conventional mainframe computer. These methods are used to classify the Cranfield, Vaswani and UKCIS document test collections. The results suggest that the parallel architecture of the DAP is not well suited to the varia ...
- 7 Generation and search of clustered files 100%  
 [A] G. Salton , A. Wong  
**ACM Transactions on Database Systems (TODS)** December 1978  
 Volume 3 Issue 4  
 A classified, or clustered file is one where related, or similar records are grouped into classes, or clusters of items in such a way that all items within a cluster are jointly retrievable. Clustered files are easily adapted to broad and narrow search strategies, and simple file updating methods are available. An inexpensive file clustering method applicable to large files is given together with appropriate file search methods. An abstract model is then introduced to predict the retrieval ...
- 8 Partitioning-based standard-cell global placement with an exact objective 100%  
 [A] Dennis J.-H. Huang , Andrew B. Kahng  
**Proceedings of the 1997 international symposium on Physical design** April 1997
- 9 An investigation into coupling measures for C++ 100%  
 [A] Lionel Briand , Prem Devanbu , Walcelio Melo  
**Proceedings of the 19th international conference on Software engineering** May 1997

- 10 Organization of clustered files for consecutive retrieval 100%  
J.S. Deogun , V V. Raghavan , T K.W. Tsou  
**ACM Transactions on Database Systems (TODS)** December 1984  
Volume 9 Issue 4  
This paper studies the problem of storing single-level and multilevel clustered files. Necessary and sufficient conditions for a single-level clustered file to have the consecutive retrieval property (CRP) are developed. A linear time algorithm to test the CRP for a given clustered file and to identify the proper arrangement of objects, if CRP exists, is presented. For the single-level clustered files that do not have CRP, it is shown that the problem of identifying a storage organization w ...
- 11 On the reuse of past optimal queries 100%  
Vijay V. Raghavan , Hayri Sever  
**Proceedings of the 18th annual international ACM SIGIR conference on Research and development in information retrieval** July 1995
- 12 Statistical inference of unknown attribute values in databases 100%  
Wen-Chi Hou , Zhongyang Zhang , Nong Zhou  
**Proceedings of the second international conference on Information and knowledge management** December 1993

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### 1 Scale-based clustering using the radial basis function network

*Chakravarthy, S.V.; Ghosh, J.;*

Neural Networks, IEEE Transactions on , Volume: 7 , Issue: 5 , Sept. 1996  
 Pages:1250 - 1261

[\[Abstract\]](#)   [\[PDF Full-Text \(1076 KB\)\]](#)   **IEEE JNL**

### 2 A heuristic self-organizing map trained using the Tanimoto coefficient

*Garavaglia, S.;*

Neural Networks Proceedings, 1998. IEEE World Congress on Computational Intelligence. The 1998 IEEE International Joint Conference on , Volume: 1 , 4-9 May 1998  
 Pages:289 - 294 vol.1

[\[Abstract\]](#)   [\[PDF Full-Text \(460 KB\)\]](#)   **IEEE CNF**

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A. K. Jain , M. N. Murty , P. J. Flynn

**ACM Computing Surveys (CSUR)** September 1999

Volume 31 Issue 3

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into groups (clusters). The clustering problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad appeal and usefulness as one of the steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in assumptions and contexts in different communities has made the transfer of useful generic co ...

### 2 Model-based recognition in robot vision

93%



Roland T. Chin , Charles R. Dyer

**ACM Computing Surveys (CSUR)** March 1986

Volume 18 Issue 1

This paper presents a comparative study and survey of model-based object-recognition algorithms for robot vision. The goal of these algorithms is to recognize the identity, position, and orientation of randomly oriented industrial parts. In one form this is commonly referred to as the "bin-picking" problem, in which the parts to be recognized are presented in a jumbled bin. The paper is organized according to 2-D, 2½-D, and 3-D object representations, which are used as the basis for ...

### 3 An optimal algorithm for approximate nearest neighbor searching

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Sunil Arya , David M. Mount , Nathan S. Netanyahu , Ruth Silverman , Angela Wu

**Proceedings of the fifth annual ACM-SIAM symposium on Discrete algorithms**

January 1994

### 4 Making faces

89%



Brian Guenter , Cindy Grimm , Daniel Wood , Henrique Malvar , Fredric Pighin

**Proceedings of the 25th annual conference on Computer graphics and interactive techniques** July 1998

**5 Surveillance: Invariance in motion analysis of videos**

85%



Cen Rao , Mubarak Shah , Tanveer Syeda-Mahmood

**Proceedings of the eleventh ACM international conference on Multimedia**

November 2003

In this paper, we propose an approach that retrieves motion of objects from the videos based on the dynamic time warping of view invariant characteristics. The motion is represented as a sequence of dynamic instants and intervals, which are automatically computed using the spatiotemporal curvature of the trajectory of moving object in the videos. Dynamic Time Warping (DTW) method matches trajectories using a view invariant similarity measure. Our system is able to incrementally learn different a ...

**6 Three-dimensional object recognition**

83%



Paul J. Besl , Ramesh C. Jain

**ACM Computing Surveys (CSUR)** March 1985

Volume 17 Issue 1

A general-purpose computer vision system must be capable of recognizing three-dimensional (3-D) objects. This paper proposes a precise definition of the 3-D object recognition problem, discusses basic concepts associated with this problem, and reviews the relevant literature. Because range images (or depth maps) are often used as sensor input instead of intensity images, techniques for obtaining, processing, and characterizing range data are also surveyed.

**7 Adaptation/load balancing: A method for decentralized clustering in large multi-agent systems**

82%



Elth Ogston , Benno Overeinder , Maarten van Steen , Frances Brazier

**Proceedings of the second international joint conference on Autonomous agents and multiagent systems** July 2003

This paper examines a method of clustering within a fully decentralized multi-agent system. Our goal is to group agents with similar objectives or data, as is done in traditional clustering. However, we add the additional constraint that agents must remain in place on a network, instead of first being collected into a centralized database. To do this we connect agents in a random network and have them search in a peer-to-peer fashion for other similar agents. We thus aim to tackle the basic clus ...

**8 WALRUS: a similarity retrieval algorithm for image databases**

82%



Apostol Natsev , Rajeev Rastogi , Kyuseok Shim

**ACM SIGMOD Record , Proceedings of the 1999 ACM SIGMOD international conference on Management of data** June 1999

Volume 28 Issue 2

Traditional approaches for content-based image querying typically compute a single signature for each image based on color histograms, texture, wavelet transforms etc., and return as the query result, images whose signatures are closest to the signature of the query image. Therefore, most traditional methods break down when images contain similar objects that are scaled differently or at different locations, or only certain regions of the image match. In this paper ...

**9 Session 9: image indexing and retrieval: DynDex: a dynamic and non-metric space indexer**

80%




King-Shy Goh , Beita Li , Edward Chang

**Proceedings of the tenth ACM international conference on Multimedia** December 2002

To date, almost all research work in the Content-Based Image Retrieval (CBIR) community has used Minkowski-like functions to measure similarity between images. In this paper, we first present a non-metric distance function, dynamic partial function (DPF), which works significantly better than Minkowski-like functions for measuring perceptual similarity; and we explain DPF's link to similarity theories in cognitive science. We then propose DynDex, an indexing method that deals with both the dynam ...

**10** Approximation of protein structure for fast similarity measures

80%


 Fabian Schwarzer , Itay Lotan

**Proceedings of the seventh annual international conference on Computational molecular biology** April 2003

It is shown that structural similarity between proteins can be decided well with much less information than what is used in common similarity measures. The full C $\alpha$  representation contains redundant information because of the inherent chain topology of proteins and a limit on their compactness due to excluded volume. A wavelet analysis on random chains and proteins justifies approximating subchains by their centers of mass. For not too compact chain-like structures in general, and ...

**11** Iterative refinement by relevance feedback in content-based digital image retrieval


80%

 M. E. J. Wood , B. T. Thomas , N. W. Campbell

**Proceedings of the sixth ACM international conference on Multimedia** September 1998

**12** Data streams I: Clustering binary data streams with K-means

77%


 Carlos Ordóñez

**Proceedings of the 8th ACM SIGMOD workshop on Research issues in data mining and knowledge discovery** June 2003

Clustering data streams is an interesting Data Mining problem. This article presents three variants of the K-means algorithm to cluster binary data streams. The variants include On-line K-means, Scalable K-means, and Incremental K-means, a proposed variant introduced that finds higher quality solutions in less time. Higher quality of solutions are obtained with a mean-based initialization and incremental learning. The speedup is achieved through a simplified set of sufficient statistics and oper ...

**13** Similarity querying II: Using sets of feature vectors for similarity search on voxelized CAD objects

77%


 Hans-Peter Kriegel , Stefan Brecheisen , Peer Kröger , Martin Pfeifle , Matthias Schubert

**Proceedings of the 2003 ACM SIGMOD international conference on Management of data** June 2003

In modern application domains such as multimedia, molecular biology and medical imaging, similarity search in database systems is becoming an increasingly important task. Especially for CAD applications, suitable similarity models can help to reduce the cost of developing and producing new parts by maximizing the reuse of existing parts. Most of the existing similarity models are based on feature vectors. In this paper, we shortly review three models which pursue this paradigm. Based on the most ...

**14** Clustering algorithms: FREM: fast and robust EM clustering for large data sets

77%



Carlos Ordóñez , Edward Omiecinski

**Proceedings of the eleventh international conference on Information and knowledge management** November 2002

Clustering is a fundamental Data Mining technique. This article presents an improved EM algorithm to cluster large data sets having high dimensionality, noise and zero variance problems. The algorithm incorporates improvements to increase the quality of solutions and speed. In general the algorithm can find a good clustering solution in 3 scans over the data set. Alternatively, it can be run until it converges. The algorithm has a few parameters that are easy to set and have defaults for most ca ...

77%

## 15 Searching in metric spaces



Edgar Chávez , Gonzalo Navarro , Ricardo Baeza-Yates , José Luis Marroquín

**ACM Computing Surveys (CSUR)** September 2001

Volume 33 Issue 3

The problem of searching the elements of a set that are close to a given query element under some similarity criterion has a vast number of applications in many branches of computer science, from pattern recognition to textual and multimedia information retrieval. We are interested in the rather general case where the similarity criterion defines a metric space, instead of the more restricted case of a vector space. Many solutions have been proposed in different areas, in many cases without cross ...

77%

## 16 A Document Storage Method Based on Polarized Distance



R. T. Chien , E. A. Mark

**Journal of the ACM (JACM)** April 1974

Volume 21 Issue 2

Some elementary mathematical properties of term matching document retrieval systems are developed. These properties are used as a basis for a new file organization technique. Some of the advantages of this new method are (1) the key-to-address transformation is easily determined; (2) the documentary information is stored only once in the file; (3) the file organization allows the use of various matching functions and thresholds; and (4) the dimensionality of the transform is easily expanded ...

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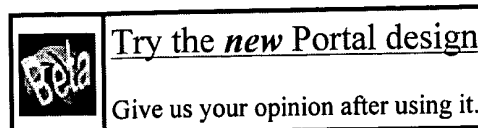
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**ACM Computing Surveys (CSUR)** September 1999  
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### 2 Model-based recognition in robot vision

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Roland T. Chin , Charles R. Dyer

**ACM Computing Surveys (CSUR)** March 1986  
Volume 18 Issue 1

This paper presents a comparative study and survey of model-based object-recognition algorithms for robot vision. The goal of these algorithms is to recognize the identity, position, and orientation of randomly oriented industrial parts. In one form this is commonly referred to as the "bin-picking" problem, in which the parts to be recognized are presented in a jumbled bin. The paper is organized according to 2-D, 2½-D, and 3-D object representations, which are used as the basis for ...

### 3 An optimal algorithm for approximate nearest neighbor searching

93%



Sunil Arya , David M. Mount , Nathan S. Netanyahu , Ruth Silverman , Angela Wu

**Proceedings of the fifth annual ACM-SIAM symposium on Discrete algorithms**  
January 1994

### 4 Making faces

89%



Brian Guenter , Cindy Grimm , Daniel Wood , Henrique Malvar , Fredric Pighin

**Proceedings of the 25th annual conference on Computer graphics and interactive techniques** July 1998

**5 Surveillance: Invariance in motion analysis of videos** 85%



Cen Rao , Mubarak Shah , Tanveer Syeda-Mahmood

**Proceedings of the eleventh ACM international conference on Multimedia**

November 2003

In this paper, we propose an approach that retrieves motion of objects from the videos based on the dynamic time warping of view invariant characteristics. The motion is represented as a sequence of dynamic instants and intervals, which are automatically computed using the spatiotemporal curvature of the trajectory of moving object in the videos. Dynamic Time Warping (DTW) method matches trajectories using a view invariant similarity measure. Our system is able to incrementally learn different a ...

**6 Three-dimensional object recognition** 83%



Paul J. Besl , Ramesh C. Jain

**ACM Computing Surveys (CSUR)** March 1985

Volume 17 Issue 1

A general-purpose computer vision system must be capable of recognizing three-dimensional (3-D) objects. This paper proposes a precise definition of the 3-D object recognition problem, discusses basic concepts associated with this problem, and reviews the relevant literature. Because range images (or depth maps) are often used as sensor input instead of intensity images, techniques for obtaining, processing, and characterizing range data are also surveyed.

**7 Adaptation/load balancing: A method for decentralized clustering in large multi-agent systems** 82%



Elth Ogston , Benno Overeinder , Maarten van Steen , Frances Brazier

**Proceedings of the second international joint conference on Autonomous agents and multiagent systems** July 2003

This paper examines a method of clustering within a fully decentralized multi-agent system. Our goal is to group agents with similar objectives or data, as is done in traditional clustering. However, we add the additional constraint that agents must remain in place on a network, instead of first being collected into a centralized database. To do this we connect agents in a random network and have them search in a peer-to-peer fashion for other similar agents. We thus aim to tackle the basic clus ...

**8 WALRUS: a similarity retrieval algorithm for image databases** 82%



Apostol Natsev , Rajeev Rastogi , Kyuseok Shim

**ACM SIGMOD Record , Proceedings of the 1999 ACM SIGMOD international conference on Management of data** June 1999

Volume 28 Issue 2

Traditional approaches for content-based image querying typically compute a single signature for each image based on color histograms, texture, wavelet tranforms etc., and return as the query result, images whose signatures are closest to the signature of the query image. Therefore, most traditional methods break down when images contain similar objects that are scaled differently or at different locations, or only certain regions of the image match. In this paper ...

**9 Session 9: image indexing and retrieval: DynDex: a dynamic and non-metric space indexer** 80%




King-Shy Goh , Beita Li , Edward Chang

**Proceedings of the tenth ACM international conference on Multimedia** December 2002

To date, almost all research work in the Content-Based Image Retrieval (CBIR) community has used Minkowski-like functions to measure similarity between images. In this paper, we first present a non-metric distance function, dynamic partial function (DPF), which works significantly better than Minkowski-like functions for measuring perceptual similarity; and we explain DPF's link to similarity theories in cognitive science. We then propose DynDex, an indexing method that deals with both the dynam ...


**10** Approximation of protein structure for fast similarity measures 80%

 Fabian Schwarzer , Itay Lotan

**Proceedings of the seventh annual international conference on Computational molecular biology** April 2003

It is shown that structural similarity between proteins can be decided well with much less information than what is used in common similarity measures. The full Ca representation contains redundant information because of the inherent chain topology of proteins and a limit on their compactness due to excluded volume. A wavelet analysis on random chains and proteins justifies approximating subchains by their centers of mass. For not too compact chain-like structures in general, and ...


**11** Iterative refinement by relevance feedback in content-based digital 80%

 image retrieval

M. E. J. Wood , B. T. Thomas , N. W. Campbell

**Proceedings of the sixth ACM international conference on Multimedia** September 1998


**12** Data streams I: Clustering binary data streams with K-means 77%

 Carlos Ordonez

**Proceedings of the 8th ACM SIGMOD workshop on Research issues in data mining and knowledge discovery** June 2003

Clustering data streams is an interesting Data Mining problem. This article presents three variants of the K-means algorithm to cluster binary data streams. The variants include On-line K-means, Scalable K-means, and Incremental K-means, a proposed variant introduced that finds higher quality solutions in less time. Higher quality of solutions are obtained with a mean-based initialization and incremental learning. The speedup is achieved through a simplified set of sufficient statistics and oper ...

**13** Similarity querying II: Using sets of feature vectors for similarity search 77%


 on voxelized CAD objects

Hans-Peter Kriegel , Stefan Brecheisen , Peer Kröger , Martin Pfeifle , Matthias Schubert

**Proceedings of the 2003 ACM SIGMOD international conference on on Management of data** June 2003

In modern application domains such as multimedia, molecular biology and medical imaging, similarity search in database systems is becoming an increasingly important task. Especially for CAD applications, suitable similarity models can help to reduce the cost of developing and producing new parts by maximizing the reuse of existing parts. Most of the existing similarity models are based on feature vectors. In this paper, we shortly review three models which pursue this paradigm. Based on the most ...

**14** Clustering algorithms: FREM: fast and robust EM clustering for large 77%

 data sets


Carlos Ordonez , Edward Omiecinski

**Proceedings of the eleventh international conference on Information and knowledge management** November 2002

Clustering is a fundamental Data Mining technique. This article presents an improved EM algorithm to cluster large data sets having high dimensionality, noise and zero variance problems. The algorithm incorporates improvements to increase the quality of solutions and speed. In general the algorithm can find a good clustering solution in 3 scans over the data set. Alternatively, it can be run until it converges. The algorithm has a few parameters that are easy to set and have defaults for most ca ...

77%

**15 Searching in metric spaces**

 Edgar Chávez , Gonzalo Navarro , Ricardo Baeza-Yates , José Luis Marroquín


**ACM Computing Surveys (CSUR)** September 2001

Volume 33 Issue 3

The problem of searching the elements of a set that are close to a given query element under some similarity criterion has a vast number of applications in many branches of computer science, from pattern recognition to textual and multimedia information retrieval. We are interested in the rather general case where the similarity criterion defines a metric space, instead of the more restricted case of a vector space. Many solutions have been proposed in different areas, in many cases without cross ...

**16 A Document Storage Method Based on Polarized Distance**

77%

 R. T. Chien , E. A. Mark

**Journal of the ACM (JACM)** April 1974

Volume 21 Issue 2

Some elementary mathematical properties of term matching document retrieval systems are developed. These properties are used as a basis for a new file organization technique. Some of the advantages of this new method are (1) the key-to-address transformation is easily determined; (2) the documentary information is stored only once in the file; (3) the file organization allows the use of various matching functions and thresholds; and (4) the dimensionality of the transform is easily expanded ...

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**Results 1 - 16 of 16      short listing**

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